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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Kemma S. Dodds

Serial No.: 10/051,607

Filed: January 17, 2002

Title: High Torque Dual Chamber Turbine Rotor for Hand-Held or Spindle Mounted
Pneumatic Tool

Examiner: Alvin J. Grant

Art Unit: 3723

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

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RESPONSE TO OFFICE ACTION

Dear Sir:

This Response to Office Action is filed in response to the Office Action of September 25, 2003. The Office Action notes that claims 1-22 are pending in the application.

In the Office Action, the Examiner: (1) allowed claim 17; (2) rejected claims 1, 13, 14, 18, 19, 21, and 22 under 35 USC §102(b) as being anticipated by U.S. Patent No. 3,709,630 to Pohl et al. ("Pohl"); and (3) objected to claims 2-12, 15, 16, and 20 as being dependent upon a rejected base claim. The Office Action notes that claims 2-12, 15, 16, and 20 would be allowable if rewritten in independent form including all of the limitations of the base claims and any intervening claims. Applicant responds to the Examiner's rejections and objections below.

Claim Rejections - 35 USC §102

The Examiner rejected claims 1, 13, 14, 18, 19, 21, and 22 under 35 USC §102(b) as being anticipated by Pohl. Applicant respectfully submits that claims 1, 13, 14, 18, 19, 21, and 22 are not anticipated by Pohl.

As to claim 1, and claim 13 which is dependent on claim 1, Pohl does not disclose a turbine rotor that has: (1) a rotor body having an inlet attachable to a high pressure air source;

(2) a rotor body having first and second annular chambers; (3) a rotor body having a common inner wall that separates first and second annular chambers; or (4) a rotor body having a plurality of tangential peripheral nozzles in communication with first and second annular chambers, as recited in claim 1.

First, in Pohl, air does not actually enter the rotor body (11) and therefore the rotor body (11) does not have an inlet that is attachable to a high pressure air source. In fact, Pohl states that the input member (3) is the part that is attachable to a high pressure air source through a bore (24) in the input member (3) (Column 3, Lines 55-58), not the rotor (11). Therefore, Pohl does not disclose a rotor body (11) having an inlet attachable to a high pressure air source.

Second, Pohl does not disclose the rotor body (11) having any annular chambers. The annular chambers identified in the Office Action (17 and 31) are not part of the rotor body (11). The first annular chamber identified (17) is formed by a gap created between the nozzle member (15), the output member (2), and the sleeve (4), and is not part of the rotor body (11). Similarly, the second annular chamber identified (31) is formed by a gap created between the housing (1) and the sleeve (4), and is not part of the rotor body (11). Therefore, Pohl does not disclose a rotor body (11) having a first or second annular chamber.

Third, since the rotor body (11) in Pohl does not contain any annular chambers, it cannot have a common inner wall that separates non-existent chambers. Furthermore, the annular chambers (17 and 31) identified in the Office Action are only separated by a wall created by the output member (2) and the sleeve (4), neither of which are part of the rotor body (11). Therefore, Pohl does not disclose a rotor body (11) having a common inner wall that separates a first and second annular chamber.

Fourth, since the rotor body (11) in Pohl does not contain any annular chambers, it cannot have nozzles in communication with non-existent chambers. Furthermore, the nozzles (16) identified in the Office Action are actually provided in the nozzle member (15) (Column 3, Lines 40-43) and are not part of the rotor body (11). In addition, the nozzles (16) are neither tangential nor peripheral to the rotor body (11). Therefore, Pohl does not disclose a rotor body (11) having tangential peripheral nozzles in communication with a first and second annular chamber.

As to claim 14, Pohl does not disclose a rotor body that has: (1) a front surface having an annular channel ending in an arcuate channel ending in a circumferential opening; or (2) a back

surface having an annular channel ending in an arcuate channel ending in a circumferential opening, as recited in claim 14. Pohl does not disclose any channels or openings at all in the front or back surface of the rotor body (11).

As to claim 18, and claim 19 which is dependent on claim 18, Pohl does not disclose: (1) a turbine rotor that has at least two high pressure air receiving chambers; (2) a means for directing pressurized air into two air receiving chambers; or (3) tangential nozzles in the outer wall of the rotor that direct a pressurized fluid from the outer wall of the rotor to impart rotation to the rotor, as recited in claim 18.

First, as discussed above, there is no mention in Pohl of the rotor having any chambers at all. Furthermore, as discussed above, the annular chambers (17 and 31) identified in the Office Action cannot be considered as the at least two high pressure air receiving chambers as they are not part of the rotor. Therefore, Pohl does not disclose a rotor having at least two high pressure air receiving chambers.

Second, as discussed above, the rotor in Pohl does not have any chambers, therefore, there can be no means for directing pressurized air into non-existent chambers. Therefore, Pohl does not disclose a means for directing pressurized air into two air receiving chambers in the rotor.

Third, as noted above, Pohl does not disclose any nozzles in the rotor at all. The only nozzles (16) disclosed in Pohl are actually provided in the nozzle member (15) (Column 3, Lines 40-43) and are not part of the rotor. In addition, the nozzles (16) are not tangential to the rotor and do not direct pressurized fluid from the rotor but instead direct pressurized air directly towards the first blade ring (12) of the rotor. Therefore, Pohl does not disclose tangential nozzles in the outer wall of the rotor that direct a pressurized fluid from the outer wall of the rotor.

In addition, as to claim 19, Pohl also does not disclose a rotor body that has a chamber wall separating two chambers, as recited in claim 19. As discussed above, the rotor (11) does not have any chambers, therefore, it cannot have a chamber wall separating two non-existent chambers. The two chambers (17 and 31) identified in the Office Action are not part of the rotor (11) in Pohl.

As for claim 21, and claim 22 which is dependent on claim 21, Pohl does not disclose a turbine rotor having: (1) a means for generating torque in a cylindrical body that has an inlet

attachable to a high pressure air source; (2) a first or second means for generating torque in a first and second chamber; or (3) a means for separating a first and second chamber, as recited in claim 21.

First, torque is generated in Pohl by nozzles (16) directing pressurized air over the blade rings (12 and 13) of the rotor body (11). However, as discussed above, neither the nozzles (16) nor any part of the rotor body (11) is attachable to a high pressure air source. In fact, Pohl states that the input member (3) is the part that is attachable to a high pressure air source through a bore (24) in the input member (3) (Column 3, Lines 55-58), not the rotor body (11) or nozzles (16). Therefore, Pohl does not disclose a means for generating torque in a cylindrical body that has an inlet attachable to a high pressure air source.

Second, as noted above, Pohl does not disclose any chambers in the rotor body (11). Therefore, torque cannot be generated in non-existing chambers. As for the annular chambers (17 and 31) identified in the Office Action, these chambers are not part of the rotor body (11) and no torque is generated within these chambers. Therefore, Pohl does not disclose a rotor having a means for generating torque in a first and second chamber.

Third, as discussed above, Pohl does not disclose chambers in the rotor (11) and therefore cannot disclose a rotor having a means for separating non-existent chambers in the rotor.

In addition, as to claim 22, Pohl also does not disclose a turbine rotor having a means for governing the revolutions per minute of the rotor. There is no mention in Pohl at all of any speed governing device or mechanism at all, much less one that is located within the rotor body (11).

Therefore, Applicant respectfully submits that claims 1, 13, 14, 18, 19, 21, and 22 are allowable over Pohl.

Claim Objections

The Examiner objected to claims 2-12, 15, 16, and 20 as being dependent upon a rejected base claim and noted that claims 2-12, 15, 16, and 20 would be allowable if rewritten in independent form including all of the limitations of the base claims and any intervening claims. For the reasons stated above, Applicant respectfully submits that claims 1, 13, 14, 18, 19, 21, and 22 are allowable and therefore dependent claims 2-12, 15, 16, and 20 also allowable as written.

Conclusion

In view of the aforesaid, Applicant respectfully submits that all of the pending claims are in condition for allowance and a Notice of Allowance for these claims is respectfully requested.

Respectfully submitted,
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Dated: 3/23/04

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